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1970 BIKINI SURVEY - MEETING WITH TRUST TERRITORY ADMINISTRATION

A series of meetings was held at Saipan on April 28 and 29, 1970, with Trust Territory (TT) officials to discuss the proposed 1970 Bikini survey. Frank Cluff (NV) and M. B. Biles (OS) represented AEC. The several intended purposes of the meetings included (1) an explanation of the need for the survey, (2) description of survey requirements, (3) TT permission, advice, and assistance in conducting the survey, (4) information on the status of the TT agricultural and construction programs, and (5) a discussion of possible techniques for reducing expected exposures and contamination levels.

A private meeting was held with the High Commissioner, Edward E. Johnston, and his deputy, Peter T. Coleman. This was the only meeting during which the sensitive subject of the plutonium soil contamination levels was discussed. We also discussed with the High Commissioner the prior meeting in Washington with Mrs. Elizabeth Farrington, Director of the Office of Territories, and her concern over any premature release of information concerning the survey. The other meetings involved various members of the TT staff, in particular Dr. George Nakanishi, Marshall District Agriculturist, and Dr. Jack Tobin, Community Development Advisor of the Marshalls District. Drs. Nakanishi and Tobin will be the key persons in the redevelopment of the atoll.

On April 26 I met with Bill Bonnet, Manager of the AEC Honolulu Office, to bring him up to date on the survey plans and to seek his advice and assistance. He was most helpful in suggesting solutions to logistics problems and approaches to dealing with the TT. He noted that \$130,000 remained from the 1969 cleanup fund and that his current FY 70 balance for BM programs was \$17,000.

The current status at Bikini is as follows: Under the direction of Dr. Nakanishi a TT staffer and crew of Bikinians are proceeding with the replanting of the coconut trees on Eneu Island. About 8000 have been planted at a daily rate of about 200. Planting will commence on Bikini in June. Over 100,000 seedlings are available; the expected survival is about 55,000. Each 20-30 man crew works about 3 months; the next rotation is scheduled for May 22. There are no plans to replant any other islands at the present time.

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Folder	4-1 BIKINI RADIOLOGICAL SURVEY- RESETTLEMENT

Bikini Island was stripped of about 30% of its overgrowth during the cleanup operation. Vegetation removal will occur as necessary to permit replanting. Dr. Nakanishi expects to have the island 75% cleared in 3 years and eventually fully cleared except for agricultural plants. (The heavy overgrowth will have a significant effect on soil sampling, air sampling and resuspension of soil contamination.)

According to Drs. Tobin and Nakanishi, the Marshalls District Administration intends to delay any permanent resettlement of Bikini until 1973 at the earliest. This decision is based solely on the desire of the TT staff to resettle the atoll only when it will be self-supporting. Although the Bikinians' existence on Kili Island is meager, they are self-sufficient, which is a matter of importance to the TT. Apparently unhappy experiences have resulted when outside support has been necessary. We noted that, although we consider the island habitable, the additional time will improve the exposure situation and permit further identification and possible correction of any problems. According to Tobin the Bikinians have been advised of this decision and have agreed reluctantly.

A recent count has shown the existence today of 606 Bikinians with rights to return. There are presently 350 on Kili and Tobin predicts that about 400 will elect to return to Bikini. These figures compare with 166 who were resettled in 1948. Every true Bikinian has land rights on Bikini Island; this is the only island in the atoll where this situation exists.

Owing to the above situation regarding land rights, the Bikinians have insisted that all homes and community buildings be constructed on Bikini Island. The TT has agreed to this request and is planning to construct the following on Bikini: 60 houses, school, church, dispensary and a warehouse/store. Only a single warehouse will be constructed on Eneu. The community buildings will be clustered near the center of the lagoon side of the island and the houses located along the lagoon road on the property of the landholders. The landholdings consist of radial sections extending from lagoon to ocean. We emphasized the importance of locating the buildings as close as possible to the lagoon, since contamination levels are lowest in that area. We were assured that no houses would be constructed in the interior.

At the request of the Bikinians all buildings will be of concrete and cement block construction with metal roofs. This decision stems from a desire to reduce typhoon damage. We explored at some length the source of materials for the buildings inasmuch as exposure from the concrete could be significant. (Bikinians spend about 60% of their time indoors). It is presently planned to obtain all sand and aggregate (coral) locally, primarily from

the islands of Bikini, Eneu and Aerokoj (Oboe). The aggregate would be taken from Eneu and Aerokoj; the latter island still has a sizeable supply that was produced in 1948. We observed that construction of the buildings, particularly the homes and school, from uncontaminated material might reduce considerably the previously calculated exposures. I cautioned that it would be necessary to consider outside sources of materials if local sources did not exhibit sufficiently low contamination. Fortunately, fresh sources of sand and aggregate are obtained by first removing several feet of overburden. Since coral should be relatively free of natural radioactivity, there is every expectation of obtaining building materials with low contamination.

We advised the TT staff of the need to survey and sample all potential sources of sand and aggregate. They agreed and Dr. Nakanishi plans to accompany the survey team and identify such sources. In addition, we now plan to survey the large concrete water cisterns constructed on Bikini and Eneu in 1969. Exposure readings taken inside these cisterns should approximate the indoor exposure from houses constructed of similar materials. The sources of materials for the cisterns are known and samples will be taken. Exposure readings inside the cisterns can be compared to those within the concrete bunkers constructed prior to the tests. The levels within these bunkers are extremely low.

The TT staff proposes to commence manufacture of concrete blocks on Eneu as soon as a crushing machine and shaker can be obtained. It is understood that this operation can commence in about 4 months.

We also advised the TT staff that we would want to review plans for the houses and other buildings to ascertain whether steps are possible to further reduce exposures. It appears that certain simple measures are possible, i.e., filling of the concrete block voids with sand and extension of the concrete floor slab several feet beyond the walls.

In addition to coconuts, food crops to be planted on Eneu and Bikini include pandanus, banana, squash, arrowroot and breadfruit. Dr. Held (University of Washington) has examined the food-chain aspects of these plants.

There seems to be some over-concern about the coconut crab problem. It is estimated that only a few hundred crabs reside on the island; nevertheless, there is much emotion connected with the situation. The ad-hoc committee recommended reduction of the crab population but ecologists have objected to this measure. Mr. Johnston mentioned that he was questioned at length on the crab matter by Representative Julia Hanson at the February 1970 authorization hearings before the Subcommittee on Territories at the House Committee on Interior and Insular Affairs. He feels that he

Files

- 4 -

probably did not answer completely all of Mrs. Hanson's questions and asked if we would brief her further if she desired. I agreed to this and have requested a copy of the hearing record in order to study the questions and answers. In addition, the matter was discussed with Dr. Held who plans to work through Mrs. Hanson's Washington State office in an attempt to resolve any problems. He is also willing to come to Washington to participate in any briefing.

We explained our interest in surveying the piles of scrap being collected on Bikini for eventual sale. Some TT staff expressed mild surprise that any scrap remained after the 1969 cleanup. We noted that the cleanup team had been requested not to remove any uncontaminated non-ferrous material since it had considerable value. We took the position that although this scrap should not present any health problems, we still had to check it for reasons of prudence. Also, it is possible that some contaminated ferrous pieces have been found which were overlooked during the cleanup. The TT staff appeared to accept this explanation.

No serious questions were raised concerning the requirement to conduct an air sampling program during the 1970 survey.

The TT requested assistance in obtaining U. S. Navy records of surveys of the atoll made prior to the tests. They produced an official Navy history which includes the statement: "In anticipation of future claims against the United States, the twenty-six islands of Bikini were charted and photographed and their ownership registered and each coconut, pandanus and breadfruit tree counted." Apparently these records constitute the only written record of property holdings and would assist materially in the re-establishment of landrights. (We are attempting to locate these records through DMA but to date their whereabouts is not known.)

According to TT officials the Bikinians have interpreted the decision to allow resettlement of Bikini as an indication of complete freedom of radioactivity. Consequently, they are certain to raise questions concerning any re-surveys, restrictions, or any measures intended to reduce exposures. (The TT staff appeared imbued with similar apprehensions). We explained that the AEC had intended to maintain radiation surveillance of the atoll until conditions stabilized. This would involve review of resettlement plans and an appropriate monitoring program. We noted that certain changing conditions had prompted the 1970 survey, i.e., the construction program, the collection of scrap and the desire to perform air sampling. We tried to impress on them the advantages of not overlooking any potential trouble spot in the resettlement program. Dr. Tobin thought that AEC should attempt to place the radiation problem in proper perspective with the Bikinians in order that protective measures would not be misconstrued. I offered the services of Tommy McCraw for this purpose since he

apparently was well received previously. In addition, OS is preparing a talking paper which can be used by the TT staff and others in discussions with the Bikinians. This could be a very troublesome matter unless properly handled.

From discussions with the TT staff it is apparent that AEC cannot expect close adherence to recommendations intended to reduce exposure, if such recommendations are inconsistent with social requirements and desires. For example, the recommendation to commence construction of houses on Eneu is essentially negated by the requirement that all houses be located on Bikini. Also, the TT staff do not believe that the Bikinians will resist the temptation to eat the coconut crabs. It appears likely that the most successful protective actions will be those that do not conflict with established customs.

On the return trip Frank Cluff and I were joined by Dr. Held (survey team technical leader) for a meeting in Honolulu on April 30 with Bill Bonnet and Joe Merrill of the area office. We discussed the meetings in Saipan and resolved a number of questions related to logistics. Joe Merrill was assigned to assist the survey team with logistics problems in the Pacific, including transshipment of equipment through Honolulu, receipt and storage of equipment at the staging point (probably Kwajalein), and the provision of expendable supplies such as food and POL.

This same group met later in the day with Mr. Robert Law, newly appointed TT representative in Honolulu. (Bob is an old friend from college days). He was previously the administrator of the TT Marshalls District and had arrived in Honolulu only the day before. In Saipan we were advised that Mr. Law would be our point of contact for all matters relating to Bikini. After discussing the survey plans with him (excepting the Pu matter), he suggested that we transport the team from Kwajalein to Bikini by TT ship rather than by air direct from Honolulu. He stated that several ships were presently available at Majuro that could be used for this purpose.

With the assistance of Mr. Law the following schedule was developed:

May 25: Transport of team from Honolulu to Kwajalein via Northwest military charter airplane

May 26: Check supplies and load vessel

May 27: Leave Kwajalein

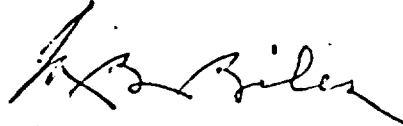
May 28: Arrive Bikini (early)

June 15: Earliest departure date for Kwajalein. (Departure may be delayed if additional survey work required).

Files

- 6 -

The above schedule allows optimum utilization of military cargo and passenger flights to Kwajalein. The availability of a ship will allow certain monitoring and sampling not otherwise possible. (Dr. Held expressed strong preference for ship transportation to Bikini).



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